

Centreville Transportation Planning Study

July 13, 2005

Tonight's Goals

- **Review of Project Goals**
- **Review of Project History**
- **Summarize Recent Traffic Studies**
- **Review Concepts from October, 2004 Meeting**
- **Present Preferred Solutions**
- **Define Next Steps**

Project Goals

- **Slow Down Traffic in the Village**
- **Improve Safety For All Users**
- **Improve Access from Side Streets**
- **Coordinate Enhancements with Centreville Village Plan**

Kennett Pike Transportation Project History

- **Sidewalk/Drainage Improvements – 1937 - 1994**
- **Gateway Medians - Spring, 2003**
- **Temporary Bulb-outs - Fall, 2003**
- **In-Road Pedestrian Signs - Summer, 2004**

DelDOT Traffic Studies to Date

- Safety Study - 2001
- Speed Studies – 2001 to 2004
- Signal Location Studies – Nov 2002
- Signing Inventory Study 2003
- Peak Hour Delay Studies – 2004
- Signal Warrant Studies – Initiated in 2001 and Revisited in 2004.

Recent Public Involvement

- August, 2004 – Interviews
- September, 2004 – Kennett Pike Association Meeting
- October, 2004 – Public Meeting Presentation
- May, 2005 – Centreville Civic Association Annual Meeting

2005 Traffic Study

- The Average Daily Traffic (ADT) Along DE 52 ranges from 13,600 Vehicles Per Day (vpd) to 18,000 vpd
- Accidents – In three years, 3 angle accidents, 9 rear end accidents
- Warrants – signal warrants met at Center Meeting Road only.

2005 Traffic Study

- Delay Study

Location	AM		PM	
	Avg. Delay (Sec/Veh)	Level Of Service	Avg. Delay (Sec/Veh)	Level Of Service
Center Meeting Road	27.4	C	88.1	F
Owl's Nest Road	43.9	D	NA	NA
Snuff Mill Road	33.5	C	NA	NA

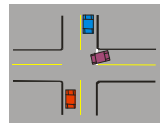
2005 Traffic Study

What is Level of Service (LOS)?

Level of Service is a quantitative measure of traffic operational conditions. Ranges of operation are defined for each type of roadway section (signalized intersections, freeways, ramp junctions and weaving sections) and are related to the amount of traffic demand at a given time as compared to the capacity of that type of roadway section. Six levels of service are defined for each type of roadway section and are given letter designations from A to F, with A representing good operating conditions and F representing unsatisfactory operating conditions.

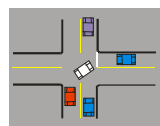
Intersection

- Highly stable, free-flow condition with little or no congestion
- Delay: <10 seconds/vehicle



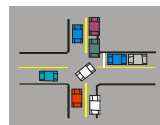
LOS A

- Stable, free-flow condition with little congestion
- Delay: 10 to 20 seconds/vehicle



LOS B

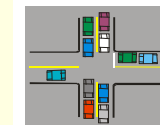
- Free-flow condition with moderate congestion
- Delay: 20 to 35 seconds/vehicle



LOS C

Intersection

- Approaching unstable condition with increasing congestion
- Delay: 35 to 55 seconds/vehicle



LOS D

- Unstable, congested condition
- Delay: 55 to 80 seconds/vehicle



LOS E

- Stop and go
- Delay: >80 seconds/vehicle



LOS F

2005 Traffic Study

- Speed Study

Location	Posted Speed (mph)	NB 85 th Percentile Speed (mph)	SB 85 th Percentile Speed (mph)
PA line to Snuff Mill Road	45	43	44
Snuff Mill Road to Owl's Nest Road	35	34	34
Owl's Nest Road to Center Meeting Road	35	45	41

2005 Traffic Study

- Existing Signing Concerns:
 - Signs Blocked by Plantings
 - Insufficient "Reduced Speed Ahead" Signage
 - Insufficient Size of Signs
- DelDOT is Investigating Solutions to Immediately Address These Concerns

October, 2004 Concepts

During the October, 2004 Public Meeting Presentation, Three (3) Concept Packages Were Identified. Further Studies Have Been Completed to Identify the Advantages & Disadvantages of the Concepts.

Concept Packages

Concept 1

- **Extend Treatments Between Gateways**
 - Sidewalks
 - Bulb-outs
 - Standardized Parking
 - Improve Crosswalks
- **Refine/Formalize Bulb-out Locations**
- **Provide Highest Level of Traffic Calming in Village Center**
- **Investigate Roundabout at Owl's Nest / Twaddell Mill Road**

Analysis of Concept 1

- **Advantages**

- Sidewalk Extension & Bulbouts Improve Pedestrian Safety
- Improved Crosswalks Highlight Pedestrian Safety
- Roundabout Reduces Side Street Delays
- Roundabout Provides Location for DART Bus U-Turn

- **Disadvantages**

- Roundabout Results in Significant Property Impacts
 - Potential Historic & Park Impacts
- Loss of On-Street Parking on SR 52
- Roundabout Compromises Pedestrian Safety at this Location
- More Time Required for Engineering/Construction

Concept Packages

Concept 2

- **Incorporates Elements of Concept 1**
- **Additional Elements:**
 - **Curbs extended Between Gateways**
 - **Left Turn Lane at Center Meeting Road**
 - **Right Turn Lane From Center Meeting Road**
 - **Left Turn lane at Snuff Mill Road**

Analysis of Concept 2

- **Advantages**

- Left Turn Lanes Reduce Potential for Rear-End Accidents
- Left Turn Lanes Eliminate Thru Traffic Passing on Shoulders/Across Bike Lanes
- Curbing Provides Additional Traffic Calming

- **Disadvantages**

- Left Turn Lanes do Not Address Perceived Speed Problem
- Left Turn Lanes Create Perception of Three-Lane Roadway in Village Center
- Curbing Requires Drainage/SWM Requirements
 - Additional Costs and Engineering

Concept Packages

Concept 3

- **Incorporates Elements of Concept 2**
- **Additional Elements:**
 - **Traffic Signal at Center Meeting Road**
 - **Traffic Signal at Snuff Mill Road**

Analysis of Concept 3

- **Advantages**
 - Helps Alleviate Left Turn Queues on 52 and Right Turn Queues at Center Meeting
 - Improves Side Street Access
- **Disadvantages**
 - Signal Will Create Queue @ Snuff Mill Road
 - Aesthetic Impacts to Village as a Result of Signals
 - Signal @ Center Meeting & Roundabout @ Owl's Nest Would Create Operational Concerns
 - Traffic Queue From Signal Into Roundabout

Preferred Concept

A Preferred Concept was Developed Based on Evaluation of the 3 Original Concepts and Recent Traffic Analysis.

Preferred Concept - Curb & Sidewalk

- **Extend Treatments Between Gateways**
 - Complete Curb & Sidewalk Network
 - Install Bulb-Outs
 - Improve Existing Crosswalk Visibility, ADA Access
 - Standardize Parking Width/ Markings

Preferred Concept - Roundabout at Center Meeting Road

- **Provide Single Lane Roundabout at Center Meeting Road to Enhance/ Extend Gateway Entering Village From the South**
 - Ideal for High Left Turns
 - Reduces Speeds
 - Creates Gaps in Traffic
 - Improves Operations @ Owl's Nest/ Twaddell Mill Intersection

Preferred Concept - Roundabout at Snuff Mill Road

- **Provide Single Lane Roundabout at Snuff Mill Road to Create Gateway Entering Village From the North**
 - Reduces Speeds
 - Creates Gaps in Traffic
 - Improves Operations @ Owl's Nest/ Twaddell Mill Intersection
 - Provides Location for DART U-Turn

Next Steps

- Obtain Public Feedback
- Finalize Preferred Concept
- Include in "Project Pipeline"